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ABSTRACT

The purpose of this study was to determine if an organized camp experience resulted in elementary school students having a higher level of environmental and ecological awareness than elementary students who had not had an organized camp experience. A letter of intent was circulated throughout all elementary schools in the Anchorage, Alaska school system. Sixteen teachers responded volunteering their classes for the study. Of these teachers four were randomly selected. The control group was composed of 19 fifth- and 42 sixth-graders, who had not had an organized camping experience. The experimental group included 17 fifth-graders and 6 sixth-graders who had attended the Alaska Center for the Environment's camp during the summer of 1983. The New Mexico Concepts of Ecology Test, Level 1, was administered to both groups. Using a static-group comparison design and applying a t-test for independent samples, it was found that an organized camp experience did not significantly increase the level of environmental and ecological awareness in fifth- and sixth-graders. It was concluded that the study should be repeated using larger samples and possible other school systems before precise results can be obtained. (ERB)

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THE UNIVERSITY OF ALASKA, ANCHORAGE

THE ENVIRONMENTAL AND ECOLOGICAL AWARENESS POTENTIAL IN THE ORGANIZED CAMP SETTING

DEPARTMENT OF EDUCATION

BY
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ANCHORAGE, ALASKA

DECEMBER 1984

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INTRODUCTION

Why do we camp in todays society? It is difficult to explain this rapidly quickening interest in outdoor life, for it is probably that each person camps for a reason or reasons strictly personal to him.

For some, camping satisfies nostalgic longings for a return to the rural life or camping experiences of their youth. For others, there's the longing to break away from the softness and ease which have become so much a part of our way of life. Camping appeals because it offers a chance to rough it, improvise, make do and test our wits against the forces of nature as we have been watching the pioneers do on television. Many parents look upon camping as a prime means of promoting close family ties as well as providing many other advantages for their children. Here they can acquire many valuable skills, attitudes, and bits of lore not ordinarily gained in school or from their usual city activities.

Organized camps are camps conducted primarily for young people; a place where they can dwell more or less in a world of their own, working, playing, worshiping, and carrying on the daily business of living together under the watchful eyes of a staff of adult counselors and other camp personnel.

The first organized camp was established on Lake Asquam in New Hampshire before the turn of the century (Miller, 1936). This experiment proved so successful that other camps were established, and the movement began to spread rapidly.

The values of the summer camps have become so well recognized

that today throughout the United States, the provinces of Canada, and foreign countries more than two million children are enjoying the benefits of camping.

Camping is, on the whole, much more successful at teaching its lessons than is the ordinary school because the children live the camp life much more fully than they live the most that goes on in the more formal school (Kilpatrick,1942). Moreover, in the well run camp children and counselors are on the same side, not opposed to each other as are some children and teachers in the formal school. This greatly helps the learning.

In addition to the opportunities already mentioned, camp directors and counselors are taking advantage of the other educational aspects of camp life. Here, the children are exposed to a whole world of knowledge not to be gained from textbooks, and not circumscribed by a fixed curriculum. They learn a new language-lore, of the woods, water, birds, flowers, wild animals, wonders of the mountains and the sky, campcraft, and the beauty of the wilderness.

Psychologists for many years, according to Carlson(1947), have insisted that learning takes place only where it can connect with experience. Yet often we go confidently ahead teaching mere words in text books without regard to the child's real life associations.

First hand experiences in the out-of-doors can do much to vitalize and enrich the present school program. Too few youth in America today have opportunities to grow plants, care for pets and farm animals, prepare food and shelter, or to tramp through and learn to know the woods... to mention just a few. These experiences have value not only because of satisfactions they bring in themselves but also because they can serve as the basis for

an understanding and appreciation of what is taught in school. There is hardly a spot in the school curriculum that can not be enriched by a well planned outdoor experience.

Outdoor education was first conceived as a way of acquainting children with the natural environment. The movement was ahead of its time in its stress on those things best taught outdoors - the interrelationships of living things to each other and to the environment (Hammerman, 1968). Only recently have people in general been alerted to this principle and made ecology a household word. Educators have taken up the challenge and have increasingly explored the rich possibilities of the outdoor setting for education. Todays programs include studies of the man-made as well as the natural environment in their attempt to halt the destructive practises that have led to our present environmental predicament. Outdoor education merely says: do not try to bring the whole world into the school. Rather, take the children out to where the world is. Outdoor education begins just a step outside the door of the school(Sharp,1952).

Change has long been equated with progress in our country. Finally we are begining to see that, at least as far as we are concerned, change does not always mean progress(Kluge,1971). We are aware that our high standard of living has resulted in misuse of our natural resources. Fortunately, we have begun to look around us, to face the problems, and to take action against those who abuse these resources and add to the deterioration of our environment. Our change in attitude is progress - progress towards safeguarding our childrens future.

We can help children to become involved with their environment in much the same way. We can help them to be aware of such problems posed by the changes that result from too many people living beyond the means of our available natural resources.

Children have a natural sense of awe and wonder. They do not learn about their environment by just looking at it. They explore it by touching, tasting, listening, and smelling as well. A child will more fully retain his firsthand knowledge of a dandelion through his discovery of one by the side of a building than through the words and illustrations in a book. He needs to feel it to know it is fuzzy and to smell it to know that it has odor. Lengthy explanations and naming objects or processes are not necessary in promoting environmental awareness in young children.

Educators have recognized the need for first-hand experience in the learning process of pupils (Partridge,1943). In the lower grades, for example, teachers who know their psychology make certain that as they teach they bring to the child actual experiences as a background for the word he uses. From the very begining of the camping movement there have been leading educators who hailed it as a great advance in the educational method. President Eliot of Harvard described organized camping as "the most significant contribution to education that America has given the world". Camp programs can be run in such a way as to make every hour meaningful to the child by actual experiences.

Steve VanMatre(1982) best sumed it up by saying " the best learning experiences start where the learner is - not where the leader is, and the experience - not the leader - is the best teacher."

Definition Of Terms

1. Elementary school student

   A student currently in grades one through six.

2. Organized camp experience

   A creative educational experience in cooperative group living in the out-of-doors. It utilizes the resources of the natural surroundings to contribute significantly to mental, physical, social, and spiritual growth. It is a sustained experience under the supervision of trained leadership.

3. Ecological Awareness

   An awareness of the interrelationships of living things to each other and to the environment.

4. Environmental Awareness

   An awareness of all of the surrounding conditions and influences that affect the development of a living thing.

Purpose

The purpose of this study was to determine if an organized camp experience resulted in elementary school students having a higher level of environmental and ecological awareness than elementary students who had not had an organized camp experience.

Hypothesis

Elementary school students who have an organized camp experience will demonstrate a higher level of environmental and ecological awareness than those who have not had an organized camp experience.

Limitations Of The Study

The following variables and influences are not controlled and may influence the results of this study.

1. The results are limited to the population studied.
2. There is no control of school science curriculum.
3. There is no control for the varying background of the students.

REVIEW OF RELATED LITERATURE

The organized camp plays a special role in todays society. It has a healthy, long range effect for both the environment and the camper. The camping movement has helped to install a knowledge and a respect for our wilderness heritage. (Shivers, 1960).

Many camp directors have added conservation programs to their over all schedule. Nash (1960) and DeGroff (1961) consider conservation to be a way of life. They take an indirect approach in teaching it to campers. They believe that the camp setting is the perfect place to teach children about forestry. As a camper learns about the forest, his interest in overall conservation expands. DeGroff asserts that the most valuable contribution that a camp has to offer is the development of a conservation consciousness in children. Todays enlightenment assures tomorrows forest.

Slesnick (1959) believes that children should be introduced to conservation in the school classroom and then reinforced in the field. He found that campers retained more information when they had a few weeks of science prep before their camp experience.

Dawson (1967) worked with a program that included 5th through 8th graders in a direct first hand experience in field ecology. Students were exposed to an eleven day camp where they discovered and studied natural communities. They then spent several days working on individual projects that were finished back at school.

Camps offer the ideal situation for teaching conservation and outdoor education (Wilson, 1952). Conservation can be introduced through

counselors and nature study programs, and they can be fun too. Woolfolk (1971) examined over 1400 campers at two different camps outside of Detroit that had major outdoor education programs. He found that 73% of the campers wished that camp was longer and 83% said they would come back again the next year.

Outdoor education can help in other areas of study. Smith (1968) found that outdoor education was an effective way to teach reading to low achievement students. Children in grades six through nine with low achievement in reading and language were studied. They were given pre and post tests dealing with archery, boating, forestry, and swimming. Between the tests, they were involved with an outdoor education program where they came into direct contact with archery, boating, forestry, and swimming. Reading materials were used to help teach concepts in each of the four areas. It was found that reading skills and language improved. Language gains were greater than reading gains and 6th graders showed the most overall improvement. Comparable gains were made by both males and females.

Holiber (1954) believes that the main goal of outdoor education is the learning of skills. By doing things in nature, and learning outdoor living skills, you learn about nature. Vinal (1936) says that nature education best takes place where nature is and that nature recreation is nature education.

Biemiller (1961) and Stork (1949) think that children can find many new experiences through nature hikes. Nature hikes make campers more aware of their natural surroundings and offer great opportunity for education in natural history.

Rzepka (1954) worked with the Merril Palmer School camp. They

organized their program around four areas; inside the cabin, outside the cabin, field trips in camp, and field trips away from camp. Their purpose was to develop biological concepts in elementary students. The program goal was the development of a conscious willingness from within to pursue the study of nature.

Vinal (1950) does not want to repeat in camps what kids learn in city schools. He believes that camps should introduce children to areas that are new to them.

Many feel that the best way to make children aware of nature and their natural surroundings is to immerse them with their senses. VanMatre (1972) takes a sensory and conceptual approach to ecological involvement. He believes that children should use all of their senses to jump right in and actually be part of nature. He feels that there are seven main concepts to becoming environmentally aware. Once these are understood, the individual is more aware of how he or she fits into the big web of life.

Marx (1961) and Haskell (1959) believe that tasting, touching, and smelling can add greatly to ones knowledge of nature. Using the senses to explore nature can lead to great discoveries for children. Seeing the environment in this different way can help children to analyze it. The more we know, the better equiped we are to preserve it.

Camping is an education which brings all of the available resources-human, social, and natural-into the solution of life problems. Saunders (1951) believes that camping education is turning into resource education. It is improving the quality of living and the individual by helping to discover nature and develop life long ecological attitudes.

Mason (1958) sees camping as an extension of elementary school education. Children have high levels of interest and curiosity. Learning experiences of school and camp reinforce, supplement, and complement each other. The teacher is interested in developing the social conscience of his pupils but can not offer the life experiences in this area that the camp can offer. The camp can not offer the intellectual discipline of the biology of the frog, but the camper will have the opportunity to observe the life of the frog in its natural habitat.

Allen (1970), at the annual meeting of the American Council Of Learned Societies, discussed the relationship of education to the problem of ecological destruction. He said that the solution to the problems of air, water, and soil pollution may be found in re-directed education. This "education for survival" can serve to replace confusion with knowledge and thus be the key to human survival. The task of environmental education is to instill awareness, concern, and training at every level of learning.

Huntley (1979) looked at the effects that an outdoor education program had on sixth-graders in Utah. The experimental group participated in an outdoor education experience and the control group was taught in an established classroom setting. Pre and post tests over four curriculum areas: nature, math, science, and vocabulary were given. Both groups showed a net gain in mean scores for each area. No significant differences in mean gains were found between the two groups; however, it was concluded that outdoor education should be integrated into school programs because the experiences encourage individual involvement and provide unique opportunities for learning.

In recent times, organized camps have taught children about the outdoors and have encouraged them to explore the many facets of their lives. At organized camps, education and exploration are virtually unlimited.

If furnished with guidance and foresight, the staff can establish a framework of environmental consciousness within the children.

Methods And Procedures

Design:

The design for this research project was a static-group comparison. There were two groups of fifth and sixth graders involved in the study; one received treatment (an organized camp experience) and the other did not. Both groups were then post-tested with the New Mexico Concepts Of Ecology Test, level 1.

Population:

The population for this study was all of the fifth and sixth graders in the Anchorage, Alaska school system.

Sample:

A letter of intent was circulated throughout all of the elementary schools in the Anchorage, Alaska school system. 16 teachers responded, volunteering their classes for the study.

A random sample of 4 teachers, out of the group that responded, was chosen. Students in the classes of these teachers that had not had an organized camping experience became the control group.

The experimental group was made up of fifth and sixth graders who had attended a summer camp sponsored by the Alaska Center For The Environment.

Subjects:

The subjects that made up the control group were all of the fifth and sixth graders, from the teacher's classes that were randomly chosen, who had not had an organized camping experience.

The subjects that made up the experimental group were all of the fifth and sixth graders who had attended the Alaska Center For The Environment's camp during the summer of 1983. The subjects were independently sampled. Those in one group were not related to those in the other group in any systematic way other than that they were selected from the same population.

Procedure:

The New Mexico Concepts Of Ecology, Test level 1, was administered by teachers to the control group which consisted of 19 fifth graders and 42 sixth graders. The same test was administered to the experimental group which consisted of 17 fifth graders and 6 sixth graders on the last day of their organized camping experience.

The tests were scored and a mean score was found for each group. The T-Test for independent samples was used to determine if there was a significant difference between the two group means.

Hypothesis:

Fifth and sixth graders who have had an organized camping experience will demonstrate a higher level of environmental/ ecological awareness than those who have not had an organized camping experience.

Null Hypothesis:

There is no significant difference in the level of environmental/ ecological awareness of fifth and sixth graders who had an organized camping experience and fifth and sixth graders who did not.

Results

Test Of Significance:

The t-test for independent samples with a probability level of .05 was used in this research to determine whether or not the mean scores of the control and experimental groups were significantly different. The value 2.021 is the t value required for rejection of the null hypothesis with $p = .05$ and $df = 40$.

The Fifth grade means had a calculated t value of 1.959. The sixth grade means had a calculated t value of 1.053.

Both the fifth and sixth grade t values are less than the required t value, therefore, the null hypothesis is accepted.

Table 1 Grade 5 Control Group Scores

Scores (out of 20)	
6	
9	
6	N = 19
9	
11	X = 182
9	
12	$\bar{X}$ = 9.58
15	
2	EX^2 = 1928
9	
14	SS = 184.7
11	
10	
13	
11	
9	
9	
12	
15	

Table 2 Grade 5 Experimental Group Scores

Scores (out of 20)	
9	
15	
12	
13	N = 17
12	
14	X = 190
15	
8	$\bar{X}$ = 11.76
3	
15	EX^2 = 2326
7	
7	SS = 202.5
13	
10	
8	
12	
17	

Table 3 Grade 6 Control Group Scores

Scores (out of 20)

8	10	14	13
11	14	15	7
13	10	11	9
8	11	17	11
8	14	10	8
11	8	11	9
15	13	14	12
7	8	15	15
10	6	11	8
13	14	10	12
7	11	9	7

$N = 42$

$X = 478$

$\bar{X} = 10.86$

$\Sigma X^2 = 5524$

$SS = 331.19$

Table 4 Grade 6 Experimental Group Scores

Scores (out of 20)

18
12
8
10
14
11

$N = 6$

$X = 73$

$\bar{X} = 12.17$

$\Sigma X^2 = 949$

$SS = 60.83$

Conclusion

The calculated t values for the fifth and sixth grade compared means were both smaller than the required t value to reject the null hypothesis at df = 40, p = .05 . The results of this research support the hypothesis that there is no significant difference in the environmental/ecological awareness of fifth and sixth graders who have had an organized camping experience and fifth and sixth graders who have not.

In both fifth and sixth grade comparisons, the experimental groups, (those that had attended an organized camp), had higher mean scores than the control groups, (those who had not attended an organized camp). The difference in means, however, was not significant. There may be several reasons for this.

First, I believe that the low number of students in the experimental groups (only 6 in the sixth grade) caused a greater score deviation and thus a greater chance for error. I feel that the mean score would be higher if there had been more students in the experimental group.

Secondly, both the fifth and sixth grade control groups had higher mean scores than the normal median score for sixth graders leading me to believe that either ecology and environmental issues may be stressed more in Alaska than in other states or that students may just be learning more in the Anchorage school systems,

For future studies, I believe that it would be worthwhile to repeat the same research using larger samples in each group. It might also be worthwhile to test other school systems to see how they compare with the results from the Anchorage school system.

Summary

The purpose of this study was to determine if an organized camp experience resulted in elementary school students having a higher level of environmental and ecological awareness than elementary students who did not have an organized camp experience. 23 fifth and sixth graders who had gone to an organized camp (experimental group) and 61 fifth and sixth graders who had not gone to an organized camp (control group) were given the New Mexico Concepts Of Ecology Test, Level 1. This is a 20 question multiple choice test that focuses on geographic evolution, conservation, plant and animal dependencies, natural adaption, and life processes.

Using a static-group comparison design and applying a t-test for independent samples, it was found that an organized camp experience did not significantly increase the level of environmental and ecological awareness in fifth and sixth graders.

It was concluded that the study should be repeated using larger samples and possible other school systems before precise results can be obtained.

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